

133 **PHYSICAL CHARACTERISTICS OF**
134 in which their villages are located, valleys contains a considerable proportion of sand cover. Also arroyos become raging torrents during temporary flood. The soil of the flood giving the characteristic name to the of alkali, however, that makes the alkali soil equal in fertility to any soil which is evident from the great sections where weeds grow so luxuriantly of the valleys are covered with mesquite crops when irrigated.

132 **CLIMATE.**—The climate is very warm, average temperature during the summer of 1890 was 81.3°; and during the winter of 1889-1890 it was 52.6°.

312 **WATER SUPPLY.**—There are numerous, and by raising embankments which they call tanks. These natural water, and toward the west they become as it can possibly be considered a field labor have made a footpath from the territory. The water in the wells near the Indians, however, have not the tanks are exhausted they remove with crossing over into Mexico.

TIMBER.—The varieties of timber and on the southern and western slopes of the mesa. It reveals the high, then oaks of hickory. The mesquite,

137 **FRUITS AND HERBS.**—The extensive moderate mountain ranges, rises in the internal skeleton of ribs or poles of trunk and arms, and constitutes up to and a part of August. They gather it from the juice a drink and a drink which is very valuable, the Indians never drink when the cactus dies and the vegetable they are used as supports for the distillery and pigeon houses, and other poultry and pigeon houses, and other

272 **THE PAPAGOS** eat the fruit of the (also) a highly intoxicating drink in the ground, and when roasted it is very of the ground a vegetable which appears highly when boiled. A very useful plant for soap.

282 **THE TANNIN** root, resembling the root potato in appearance, grows in great profusion. It contains a large portion of tannic acid, and is a substitute for the astringent herbs, hemlock and oak, which are used in tanneries.

262 **FOOD.**—In addition to the fruits, grain, and stock already mentioned, their food consists of wheat flour (usually stored in simple ways, parched wheat and corn, boiled wheat and corn, flour made from the mesquite bean, beans, yucca squash, green and dried squash seeds, beef, and poultry.

181 **INDUSTRY.**—The Papagos seem to be entrained by the whites in general as the best Indians in the territory. They are industrious, and are good help in mines, on ranches, in the harvest field, and on stock ranges. They easily learn the mechanical arts, and can handle mining drills as well as white men. The engineer at the Quejodon mines said that his assistant was a Papago, and that he was fully competent to run the engine.

312 **It is practical irrigation** the Indians are conceded to be the superiors of the whites, and in their domain this is the foundation of agricultural skill. When properly educated there can be no doubt of their ability to acquire the scientific principles of the art.

THE SOIL.—The territory covered by the Papagos is their migration, and consists of mountain ranges and the intervening valleys. The soil of the section of clay, so that it is all called adobe soil. In the mesas or plains of the arroyos, or dry water channels, deposits of gravel are numerous. The rainy season, rendering travel impossible or dangerous during the alkali is very rocky. Alkali is present in the soil in varying proportions, vast stretch of country known as the alkali desert. It is not the presence of salt, but the absence of water. An abundant water supply renders this in the country. As it is, the valleys contain a great deal of arable land, covered with grass, which furnishes the stock ranges, and from occasional dry after the rainy season as to overtop a man on horseback. Some portions are open and bushes, and also sagebrush, but these sections produce abundant

134, being neither extremely cold in winter nor hot in summer. The mean of 1890 was 51.3°, and during the winter of 1889-1890 it was 52.6°.

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